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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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03/20/2006

Arnold Mattheus

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EXAMINER

TRAN, DZUNG D

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/530,628	Applicant(s) MATTHEUS ET AL.	
	Examiner Dzung D. Tran	Art Unit 2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 23-44 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 23-44 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 23-27, 29-31 and 33-42 are rejected under 35 U.S.C. 102(e) as being anticipated by Sasaoka US 2001/0048798.

Regarding claim 23, Sasaoka discloses in Figures 1 and 2, a device for adjusting the chromatic dispersion in an optical transmission system, the device comprising an optical element 121 having a temperature-dependent chromatic dispersion, the optical element disposed along an optical transmission path within a receiver 120 (see paragraph 0038); a device 34 (i.e., measuring unit) for measuring an ambient temperature of at least one section of the optical element to generate a measured value (see paragraph 0043); and a device 35 (i.e., control unit) for adjusting at least one of a temperature and a temperature distribution of at least one region of the optical element for providing a predefined chromatic dispersion of the optical element, the device adjusting in response to the measured value (see paragraph 0043).

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Regarding claim 24, Sasaoka discloses wherein the optical element includes a material that exhibits an essentially monotonic dependence of the chromatic dispersion upon its temperature (paragraphs 0039, 0041).

Regarding claim 25, Sasaoka discloses wherein the optical element includes a material which exhibits a dispersion coefficient that has an inverted sign compared to the dispersion coefficient of the optical transmission system (paragraph 0039).

Regarding claim 26, Sasaoka discloses wherein the optical element includes an optical fiber and the optical fiber is a glass fiber (i.e., DCF 31; see paragraph 0041).

Regarding claim 27, Sasaoka discloses wherein the device for adjusting at least one of the temperature and the temperature distribution includes a temperature-control device (paragraph 0043).

Regarding claim 29, Sasaoka discloses a chromatic dispersion monitor operative to measure chromatic dispersion (i.e., measuring unit 34).

Regarding claim 30, Sasaoka discloses at least two optical elements having a temperature-dependent chromatic dispersion, which are assigned to separate inputs and outputs; and the device for adjusting at least one of a temperature or a temperature distribution operative to adjust a joint temperature or temperature distribution of at least one region of the at least two optical elements (see Figures 3a, 3b).

Regarding claim 31, Sasaoka discloses in Figures 1 and 2, an optical transmission system comprising:

a transmitter 110 for transmitting an optical signal;

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a receiver 120 for receiving the optical signal from the transmitter, the transmitter coupled to the receiver via an optical element defining an optical path 140, wherein the optical element includes a temperature-dependent chromatic dispersion 121; and at least one device, disposed within the receiver, for adjusting the chromatic dispersion of the optical element, the device including: a device 34 (i.e., measuring unit) for measuring an ambient temperature of at least one section of the optical element to generate a measured value (see paragraph 0043); and a device 35 (i.e., control unit) for adjusting at least one of a temperature and a temperature distribution of at least one region of the optical element for providing a predefined chromatic dispersion of the optical element, the device adjusting in response to the measured value (see paragraph 0043).

Regarding claim 33, Sasaoka discloses wherein the receiver includes: at least one device 34 (i.e., measuring unit) for measuring the chromatic dispersion.

Regarding claim 34, Sasaoka discloses the receiver further including: a temperature control device 35.

Regarding claim 35, Sasaoka discloses wherein the temperature-control device regulates the temperature as a function of a signal that corresponds to the measured value of the chromatic dispersion (paragraph 0043).

Regarding claim 36, Sasaoka discloses at least two devices for adjusting the chromatic dispersion of the optical transmission system that are disposed one after the other along the optical path being interconnected via an optical monitoring channel (see Figures 3a, 3b).

Regarding claim 37, Sasaoka discloses at least two devices for adjusting the chromatic dispersion of the optical transmission system that are disposed one after the other along the optical path being connected via an optical monitoring channel to a computer device for ascertaining the settings of the device (see Figures 3a, 3b).

Regarding claim 38, Sasaoka discloses in Figures 1 and 2, a method for adjusting the chromatic dispersion in an optical transmission system, the method comprising:

measuring an ambient temperature of at least one section of the optical element having a temperature-dependent chromatic dispersion, the optical element disposed along an optical transmission path within a receiver (see paragraph 0043);

generating a measured value based on the measured ambient temperature and adjusting, in response to the measured value, at least one of a temperature and a temperature distribution of at least one region of the optical element for providing a predefined chromatic dispersion of the optical element (see paragraphs 0042- 0043).

Regarding claim 39, Sasaoka discloses wherein the chromatic dispersion in the optical transmission system is measured and at least one of the temperature and the temperature distribution is adjusted as a function of the measurement (paragraph 0043).

Regarding claim 40, Sasaoka discloses wherein the chromatic dispersion in the optical transmission system is ascertained by measuring the temperature at at least one location in the optical transmission system (paragraph 0043).

Regarding claim 41, Sasaoka discloses wherein the step of adjusting further comprises: compensating for the chromatic dispersion in the optical transmission system (paragraph 0043).

Regarding claim 42, Sasaoka discloses wherein the adjusting the at least one of a temperature and a temperature distribution of the optical element is as a function of the adjustment of at least one further element having a temperature-dependent chromatic dispersion in the optical transmission system (paragraph 0043).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaoka US 2001/0048798 in view of Danziger US 2002/0006257.

Regarding claim 28, Sasaoka does not specifically disclose wherein the temperature-control device includes a thermostat device. However, using a thermostat device for monitoring the temperature is well known in the art as shown in Danziger, Figure 4a, element 170 for measuring the temperature (paragraph 0050). At the time of the invention was made, it would have been obvious to one of ordinary skill in the art to include the well known thermostat device in the chromatic dispersion compensation device of Sasaoka. One of ordinary skill in the art would have been motivated to do

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that in order to measure the temperature of the chromatic dispersion compensation element.

5. Claims 32 and 43-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaoka US 2001/0048798 in view of Sasaki US 6,771,904.

Regarding claims 32 and 43-44, Sasaoka does not specifically disclose a device for feeding a test signal for measuring the chromatic dispersion or at least one section of the optical transmission system by feeding and evaluating a test signal. However, modulating the test signal and sending the test signal from the transmission site is well known in the art as shown in Figure 1 of Sasaki. At the time of the invention was made, it would have been obvious to one of ordinary skill in the art to implement the test signal generator in the transmitter of Sasaoka. One of ordinary skill in the art would have been motivated to do that in order to send the test signal over the system for adjusting the temperature of the chromatic dispersion compensation element.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. Yoshimura U.S. Patent no. 5,793,917. Apparatus for compensating for dispersion in submarine optical amplification and transmission system

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b. Schueider et al. U.S. Publication no. 2003/0081891. Optically controlled optical switching module

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dzung D Tran whose telephone number is (571) 272-3025. The examiner can normally be reached on 9:00 AM - 7:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan, can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dzung Tran

09/09/2008

/Dzung D Tran/

Primary Examiner, Art Unit 2613

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